CPC COOPERATIVE PATENT CLASSIFICATION

H01B CABLES; CONDUCTORS; INSULATORS; SELECTION OF MATERIALS FOR THEIR CONDUCTIVE, INSULATING OR DIELECTRIC PROPERTIES (selection for magnetic properties H01F 1/00; waveguides H01P ; installations of cables or lines H02G ; { printed circuits H05K })

NOTE

Group H01B 12/00 takes precedence over groups H01B 5/00 to H01B 11/00.

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

H01B 7/17 to H01B 7/295 covered by H01B 7/18 to H01B 7/28D, H01B 7/34 to H01B 7/34B3

H01B 1/00 Conductors or conductive bodies characterised by the conductive materials; Selection of materials as conductors (resistors H01C ; selection of materials for superconductivity H01L 39/00)

NOTE

Groups H01B 1/14 to H01B 1/24 take precedence over groups H01B 1/02 to H01B 1/12

H01B 1/02 . mainly consisting of metals or alloys

H01B 1/023 . . { Alloys based on aluminium }

H01B 1/026 . . { Alloys based on copper }

H01B 1/04 . mainly consisting of carbon-silicon compounds, carbon or silicon

H01B 1/06 . mainly consisting of other non-metallic substances

H01B 1/08 . . oxides

H01B 1/10 . . sulfides

H01B 1/12 . . Organic substances { (organic macromolecular compounds or compositions C08) }

H01B 1/121 . . . { Charge-transfer complexes }

H01B 1/122 . . . { Ionic conductors }

H01B 1/124 . . . { Intrinsically conductive polymers }

H01B 1/125 . . . . { comprising aliphatic main chains, e.g. polyactylenes }

H01B 1/127 . . . . { comprising five-membered aromatic rings in the main chain, e.g. polypyrroles, polythiophenes }

H01B 1/128 . . . . { comprising six-membered aromatic rings in the main chain, e.g. polyanilines, polyphenylenes }

H01B 1/14 . Conductive material dispersed in non-conductive inorganic material

H01B 1/16 . . the conductive material comprising metals or alloys

H01B 1/18 . . the conductive material comprising carbon-silicon compounds, carbon or silicon

H01B 1/20 . Conductive material dispersed in non-conductive organic material { (organic macromolecular compounds or compositions C08) }

H01B 1/22 . . the conductive material comprising metals or alloys

H01B 1/24 . . the conductive material comprising carbon-silicon compounds, carbon or silicon

H01B 3/00 **Insulators or insulating bodies characterised by the insulating materials; Selection of materials for their insulating or dielectric properties** (selection of piezo-electric or electrostrictive materials H01L 41/00)

H01B 3/002 . { Inhomogeneous material in general }

H01B 3/004 . . { with conductive additives or conductive layers }

H01B 3/006 . . { Other inhomogeneous material }

H01B 3/008 . { Other insulating material }

H01B 3/02 . mainly consisting of inorganic substances

H01B 3/025 . . { Other inorganic material }

H01B 3/04 . . mica

H01B 3/06 . . asbestos

H01B 3/065 . . . { Wires with asbestos }

H01B 3/08 . . quartz; glass; glass wool; slag wool; vitreous enamels

H01B 3/081 . . . { Wires with vitreous enamels }

H01B 3/082 . . . { Wires with glass or glass wool }

H01B 3/084 . . . { Glass or glass wool in binder }

H01B 3/085 . . . { Particles bound with glass }

H01B 3/087 . . . { Chemical composition of glass }

H01B 3/088 . . . { Shaping of glass or deposition of glass }

H01B 3/10 . . Metallic oxides (ceramics H01B 3/12)

H01B 3/105 . . . { Wires with oxides }

H01B 3/12 . . ceramics

H01B 3/14 . . cements

H01B 3/16 . . gases

H01B 3/18 . mainly consisting of organic substances { (organic macromolecular compounds or compositions C08) }

H01B 3/185 . . { Substances or derivates of cellulose }

H01B 3/20 . . Liquids, e.g. oils (silicone oils H01B 3/46)

H01B 3/22 . . . hydrocarbons

H01B 3/24 . . . containing halogen in the molecules, e.g. halogenated oils

H01B 3/26 . . asphalts; bitumens; pitches

H01B 3/28 . . natural or synthetic rubber

H01B 3/30 . . plastics; resins; waxes

NOTE

Group H01B 3/47 takes precedence over groups H01B 3/32 to H01B 3/46

H01B 3/301	. . .	{ Macromolecular compounds obtained by reactions forming a linkage containing sulfur with or without nitrogen, oxygen or carbon in the main chain of the macromolecule, not provided for in group H01B 3/302 }
H01B 3/302	. . .	{ Polyurethanes or polythiourethanes; Polyurea or polythiourea }
H01B 3/303	. . .	{ Macromolecular compounds obtained by reactions forming a linkage containing nitrogen with or without oxygen or carbon in the main chain of the macromolecule, not provided for in groups H01B 3/38 or H01B 3/302 }
H01B 3/305	. . . .	{ Polyamides or polyesteramides }
H01B 3/306	. . . .	{ Polyimides or polyesterimides }
H01B 3/307	. . .	{ Other macromolecular compounds }
H01B 3/308	. . .	{ Wires with resins }
H01B 3/32	. . .	natural resins
H01B 3/34	. . .	Waxes (silicone waxes H01B 3/46)
H01B 3/36	. . .	condensation products of phenols with aldehydes or ketones
H01B 3/38	. . .	condensation products of aldehydes with amines or amides
H01B 3/40	. . .	epoxy resins
H01B 3/42	. . .	polyesters; polyethers; polyacetals
H01B 3/421	. . . .	{ Polyesters }
H01B 3/422	. . . . .	{ Linear saturated polyesters derived from dicarboxylic acids and dihydroxy compounds }
H01B 3/423	. . . . .	{ Linear aromatic polyesters }
H01B 3/425	. . . . .	{ Non-saturated polyesters derived from polycarboxylic acids and polyhydroxy compounds, in which at least one of the two components contains aliphatic unsaturation }
H01B 3/426	. . . . .	{ Polycarbonates }
H01B 3/427	. . . .	{ Polyethers }
H01B 3/428	. . . .	{ Polyacetals }
H01B 3/44	. . .	Vinyl resins; Acrylic resins (silicones H01B 3/46)
H01B 3/441	. . . .	{ from alkenes }
H01B 3/442	. . . .	{ from aromatic vinyl compounds }
H01B 3/443	. . . .	{ from vinylhalogenides or other halogenoethylenic compounds }
H01B 3/445	. . . . .	{ from vinylfluorides or other fluoroethylenic compounds }
H01B 3/446	. . . .	{ from vinylacetals }
H01B 3/447	. . . .	{ from acrylic compounds }
H01B 3/448	. . . .	{ from other vinyl compounds }
H01B 3/46	. . .	silicones
H01B 3/465	. . . .	{ Silicone oils }
H01B 3/47	. . .	fibre-reinforced plastics, e.g. glass-reinforced plastics
H01B 3/48	. .	fibrous materials (fibre-reinforced plastics H01B 3/47)
H01B 3/485	. . .	{ Other fibrous materials fabric }

H01B 3/50 . . . fabric
H01B 3/52 . . . wood; paper; press board
H01B 3/54 . . . hard paper; hard fabrics
H01B 3/545 . . . . { Hard fabrics }
H01B 3/56 . . gases

H01B 5/00 Non-insulated conductors or conductive bodies characterised by their form

H01B 5/002 . { Auxiliary arrangements }
H01B 5/004 . . { for protection against corona }
H01B 5/006 . . { for protection against vibrations }

H01B 5/008 . { Fence-wire not otherwise provided for (wire fencing E04H 17/02) }

H01B 5/02 . Single bars, rods, wires, or strips
H01B 5/04 . . wound or coiled

H01B 5/06 . Single tubes

H01B 5/08 . Several wires or the like stranded in the form of a rope
H01B 5/10 . . stranded around a space, insulating material, or dissimilar conducting material
H01B 5/101 . . . { stranded around a space }
H01B 5/102 . . . { stranded around a high tensile strength core }
H01B 5/104 . . . . { composed of metallic wires, e.g. steel wires }
H01B 5/105 . . . . { composed of synthetic filaments, e.g. glass-fibres }
H01B 5/107 . . . { stranded around a core supporting radial stresses, e.g. a tube, a wire helix }
H01B 5/108 . . . { stranded around communication or control conductors }

H01B 5/12 . Braided wires or the like

H01B 5/14 . comprising conductive layers or films on insulating-supports (insulating-layers or insulating-films on metal bodies H01B 17/62)

H01B 5/16 . Comprising conductive material in insulating or poorly conductive material, e.g. conductive rubber (H01B 1/14, H01B 1/20 take precedence; insulating bodies with conductive admixtures H01B 17/64; conductive paints C09D 5/24)

H01B 7/00 Insulated conductors or cables characterised by their form

H01B 7/0009 . { Details relating to the conductive cores }
H01B 7/0018 . . { Strip or foil conductors (H01B 7/08 takes precedence) }
H01B 7/0027 . . { Liquid conductors }
H01B 7/0036 . . { Alkali metal conductors }

H01B 7/0045 . { Cable-harnesses }

H01B 7/0054 . { Cables with incorporated electric resistances }

H01B 7/0063 . { Ignition cables }

H01B 7/0072 . { Electrical cables comprising fluid supply conductors }

H01B 7/0081 . { Cables of rigid construction (rigid-tube cables H01B 7/16) }

H01B 7/009 . { Cables with built-in connecting points or with predetermined areas for making deviations }

H01B 7/02 . Disposition of insulation (materials H01B 3/00; insulators H01B 17/00)

H01B 7/0208 . . { Cables with several layers of insulating material }

H01B 7/0216 . . . { Two layers }

H01B 7/0225 . . . { Three or more layers }

H01B 7/0233 . . { Cables with a predominant gas dielectric }

H01B 7/0241 . . { comprising one or more helical wrapped layers of insulation }

H01B 7/025 . . . { comprising in addition one or more other layers of non-helical wrapped insulation }

H01B 7/0258 . . { comprising one or more longitudinal lapped layers of insulation }

H01B 7/0266 . . { comprising one or more braided layers of insulation }

H01B 7/0275 . . { comprising one or more extruded layers of insulation }

H01B 7/0283 . . . { comprising in addition one or more other layers of non-extruded insulation }

H01B 7/0291 . . { comprising two or more layers of insulation having different electrical properties }

H01B 7/04 . Flexible cables, conductors, or cords, e.g. trailing cables

H01B 7/041 . . { attached to mobile objects, e.g. portable tools, elevators, mining equipment, hoisting cables }

H01B 7/043 . . { attached to flying objects, e.g. aircraft towline, cables connecting an aerodyne to the ground }

H01B 7/045 . . { attached to marine objects, e.g. buoys, diving equipment, aquatic probes, marine towline }

H01B 7/046 . . { attached to objects sunk in bore holes, e.g. well drilling means, well pumps }

H01B 7/048 . . { for implantation into a human or animal body, e.g. pacemaker leads }

H01B 7/06 . Extensible conductors or cables, e.g. self-coiling cords (arrangements for storing and repeatedly paying-out and re-storing lengths of conductors or cables B65H 75/34)

H01B 7/065 . . { having the shape of an helix }

H01B 7/08 . Flat or ribbon cables

H01B 7/0807 . . { Twin conductor or cable }

H01B 7/0815 . . { covered with gluten for wall-fixing }

H01B 7/0823 . . { Parallel wires, incorporated in a flat insulating profile }

H01B 7/083 . . { Parallel wires, incorporated in a fabric }

H01B 7/0838 . . { Parallel wires, sandwiched between two insulating layers }

H01B 7/0846 . . { Parallel wires, fixed upon a support layer }

H01B 7/0853 . . { Juxtaposed parallel wires, fixed to each other without a support layer }

H01B 7/0861 . . { comprising one or more screens }

H01B 7/0869 .. { comprising one or more armouring, tensile- or compression-resistant elements }
H01B 7/0876 .. { comprising twisted pairs }
H01B 7/0884 .. { comprising connection wire loops }
H01B 7/0892 .. { incorporated in a cable of non-flat configuration }

H01B 7/10 . Contact cables, i.e. having conductors which may be brought into contact by distortion of the cable
H01B 7/102 .. { responsive to heat }
H01B 7/104 .. { responsive to pressure }
H01B 7/106 ... { comprising concentric conductors }
H01B 7/108 ... { comprising parallel conductors }

H01B 7/12 . Floating cables (installations of cables supported on or from floats H02G 9/12)

H01B 7/14 . Submarine cables
H01B 7/145 .. { associated with hydrodynamic bodies }

H01B 7/16 . Rigid-tube cables (heating elements of similar construction H05B)

H01B 7/17 . Protection against damage caused by external factors, e.g. sheaths or armouring (power cables with screens H01B 9/02; communication cables with screens H01B 11/06; { continuously-loaded cables H01B 11/14; } installation of conduits H02G)
H01B 7/18 .. { Protection against damage caused } by wear, mechanical force or pressure; { Sheaths; Armouring }
H01B 7/1805 ... { Protections not provided for in groups H01B 7/182 to H01B 7/26 }
H01B 7/181 .... { composed of beads or rings }
H01B 7/1815 .... { composed of longitudinal inserts }
H01B 7/182 ... { comprising synthetic filaments }
H01B 7/1825 .... { forming part of a high tensile strength core }
H01B 7/183 .... { forming part of an outer sheath }
H01B 7/1835 ... { Sheaths comprising abrasive charges }
H01B 7/184 ... { Sheaths comprising grooves, ribs or other projections }
H01B 7/1845 ... { Sheaths comprising perforations }
H01B 7/185 ... { Sheaths comprising internal cavities or channels }
H01B 7/1855 ... { Sheaths comprising helical wrapped non-metallic layers }
H01B 7/186 ... { Sheaths comprising longitudinal lapped non-metallic layers }
H01B 7/1865 ... { Sheaths comprising braided non-metallic layers }
H01B 7/187 ... { Sheaths comprising extruded non-metallic layers }
H01B 7/1875 ... { Multi-layer sheaths }
H01B 7/188 .... { Inter-layer adherence promoting means }
H01B 7/1885 .... { Inter-layer adherence preventing means }
H01B 7/189 ... { Radial force absorbing layers providing a cushioning effect (H01B 7/185 takes precedence) }
H01B 7/1895 ... { Internal space filling-up means }
H01B 7/20 ... Metal tubes, e.g. lead sheaths

H01B 7/201 .... { Extruded metal tubes }
H01B 7/202 .... { Longitudinal lapped metal tubes }
H01B 7/204 .... { composed of lead }
H01B 7/205 .... { composed of aluminium }
H01B 7/207 .... { composed of iron or steel }
H01B 7/208 .... { composed of composite laminated metals }
H01B 7/22 ... Metal wires or tapes, e.g. made of steel
H01B 7/221 .... { Longitudinally placed metal wires or tapes }
H01B 7/223 ..... { forming part of a high tensile strength core }
H01B 7/225 ..... { forming part of an outer sheath }
H01B 7/226 .... { Helicoidally wound metal wires or tapes }
H01B 7/228 .... { Metal braid }
H01B 7/24 ... Devices affording localised protection against mechanical force or pressure
H01B 7/26 ... Reduction of losses in sheaths or armouring
H01B 7/28 .. { Protection against damage caused } by moisture, corrosion, chemical attack or weather { (sheaths, amouring H01B 7/18) }
H01B 7/2806 ... { Protection against damage caused by corrosion }
H01B 7/2813 ... { Protection against damage caused by electrical, chemical or water tree deterioration }
H01B 7/282 ... Preventing penetration of fluid { , e.g. water or humidity, } into conductor or cable (insulators or insulating bodies with surfaces specially treated for preserving insulating properties, e.g. for protection against moisture, dirt, or the like, H01B 17/50)
H01B 7/2825 .... { using a water impermeable sheath }
H01B 7/285 .... by completely or partially filling interstices in the cable
H01B 7/2855 ..... { using foamed plastic }
H01B 7/288 ..... using hygroscopic material or material swelling in the presence of liquid
H01B 7/29 .. Protection against damage caused by extremes of temperature or by flame { (heat dissipation or conduction H01B 7/42) }
H01B 7/292 ... { using material resistant to heat }
H01B 7/295 ... using material resistant to flame

H01B 7/30 . with arrangements for reducing conductor losses when carrying alternating current, e.g. due to skin effect
H01B 7/303 .. { Conductors comprising interwire insulation }
H01B 7/306 .. { Transposed conductors }

H01B 7/32 . with arrangements for indicating defects, e.g. breaks, leaks, (locating defects by measuring G01)
H01B 7/322 .. { comprising humidity sensing means }
H01B 7/324 .. { comprising temperature sensing means }
H01B 7/326 .. { comprising pressure sensing means }
H01B 7/328 .. { comprising violation sensing means }

H01B 7/36 . with distinguishing or length marks
H01B 7/361 .. { being the colour of the insulation or conductor }

H01B 7/363 . . { being the form of the insulation or conductor }
H01B 7/365 . . { being indicia imposed on the insulation or conductor }
H01B 7/366 . . { being a tape, thread or wire extending the full length of the conductor or cable }
H01B 7/368 . . { being a sleeve, ferrule, tag, clip, label or short length strip }

H01B 7/38 . with arrangements for facilitating removal of insulation
H01B 7/385 . . { comprising a rip cord or wire }

H01B 7/40 . with arrangements for facilitating mounting or securing

H01B 7/42 . with arrangements for heat dissipation or conduction (insulators or insulating bodies having heating or cooling devices H01B 17/54)
H01B 7/421 . . { for heat dissipation }
H01B 7/423 . . . { using a cooling fluid }
H01B 7/425 . . . . { the construction being bendable }
H01B 7/426 . . . { using cooling fins, ribs }
H01B 7/428 . . { Heat conduction }

H01B 9/00 Power cables

H01B 9/001 . { Power supply cables for the electrodes of electric-welding apparatus or electric-arc furnaces }

H01B 9/003 . { including electrical control or communication wires }

H01B 9/005 . { including optical transmission elements }

H01B 9/006 . { Constructional features relating to the conductors }

H01B 9/008 . { for overhead application }

H01B 9/02 . with screens or conductive layers, e.g. for avoiding large potential gradients
H01B 9/021 . . { Features relating to screening tape per se }
H01B 9/022 . . { composed of longitudinal lapped tape-conductors }
H01B 9/023 . . { composed of helicoidally wound tape-conductors }
H01B 9/024 . . { composed of braided metal wire }
H01B 9/025 . . { composed of helicoidally wound wire-conductors }
H01B 9/026 . . { composed of longitudinally posed wire-conductors }
H01B 9/027 . . { composed of semi-conducting layers }
H01B 9/028 . . { with screen grounding means, e.g. drain wires }
H01B 9/029 . . { Screen interconnecting circuits }

H01B 9/04 . Concentric cables

H01B 9/06 . Gas-pressure cables; Oil-pressure cables; Cables for use in conduits under fluid pressure
H01B 9/0605 . . { Gas-pressure cables with enclosed conduits }

H01B 9/0611 .. { Oil-pressure cables }
H01B 9/0616 .. { Oil-pressure cables with enclosed conduits }
H01B 9/0622 .. { Cables for use in conduits under gas-pressure }
H01B 9/0627 .. { Cables for use in conduits under oil-pressure }
H01B 9/0633 .. { Expansion-absorbing apparatus, enclosed within the cable }
H01B 9/0638 .. { Features relating to the conductors of gas-pressure cables }
H01B 9/0644 .. { Features relating to the dielectric of gas-pressure cables }
H01B 9/065 ... { Tubular insulation }
H01B 9/0655 ... { Helically wrapped insulation }
H01B 9/0661 ... { Longitudinally wrapped insulation }
H01B 9/0666 ... { Discontinuous insulation }
H01B 9/0672 .... { having the shape of a disc }
H01B 9/0677 .. { Features relating to the enclosing sheath of gas-pressure cables }
H01B 9/0683 .. { Features relating to the conductors of oil-pressure cables }
H01B 9/0688 .. { Features relating to the dielectric of oil-pressure cables }
H01B 9/0694 .. { Features relating to the enclosing sheath of oil-pressure cables }

H01B 11/00 **Communication cables or conductors** (waveguides H01P)

H01B 11/002 . { Pair constructions }

H01B 11/005 . { Quad constructions }

H01B 11/007 . { for overhead application }

H01B 11/02 . Cables with twisted pairs or quads (transposing, crossing or twisting at joints H04B ; balancing of earth capacitance H04B)
H01B 11/04 .. with pairs or quads mutually positioned to reduce cross-talk (balancing by making use of additional capacitors or coils H04B)
H01B 11/06 .. with means for reducing effects of electromagnetic or electrostatic disturbances, e.g. screen (screening in general H05K 9/00)
H01B 11/08 ... Screens specially adapted for reducing cross-talk
H01B 11/085 .... { composed of longitudinal tape conductors }
H01B 11/10 ... Screens specially adapted for reducing interference from external sources
H01B 11/1008 .... { Features relating to screening tape per se }
H01B 11/1016 .... { composed of a longitudinal lapped tape-conductor }
H01B 11/1025 .... { composed of a helicoidally wound tape-conductor }
H01B 11/1033 .... { composed of a wire-braided conductor }
H01B 11/1041 .... { composed of a helicoidally wound wire-conductor }
H01B 11/105 .... { composed of a longitudinally posed wire-conductor }
H01B 11/1058 .... { using a coating, e.g. a loaded polymer, ink or print }
H01B 11/1066 ..... { the coating containing conductive or semiconductive material }
H01B 11/1075 ..... { the coating being applied by printing }
H01B 11/1083 ..... { the coating containing magnetic material }

H01B 11/1091 .... { with screen grounding means, e.g. drain wires }

H01B 11/12 .. Arrangements for exhibiting specific transmission characteristics (loading coils per se H01F 17/08; coil-loaded circuits H04B)

H01B 11/125 ... { Specially adapted cable interconnections }

H01B 11/14 ... Continuously inductively loaded cables, e.g. Krarup cables

H01B 11/143 .... { using helically wound magnetic tape }

H01B 11/146 .... { using magnetically loaded coatings }

H01B 11/16 ... Cables, e.g. submarine cables, with coils or other devices incorporated during cable manufacture (junction boxes for cables H02G 15/10)

H01B 11/18 . Co-axial cables; Analogous cables having more than one inner conductor within a common outer conductor

NOTE

If suitable for handling frequencies considerably beyond the audio range and if typical HF-features of coaxial cables are disclosed, e.g. propagation of non-TEM modes, multimoding, oversized coaxial cables, particular cross-section adapted for HF-propagation, classification is made in H01P 3/06

H01B 11/1804 .. { Construction of the space inside the hollow inner conductor }

H01B 11/1808 .. { Construction of the conductors }

H01B 11/1813 ... { Co-axial cables with at least one braided conductor }

H01B 11/1817 ... { Co-axial cables with at least one metal deposit conductor }

H01B 11/1821 ... { Co-axial cables with at least one wire-wound conductor }

H01B 11/1826 ... { Co-axial cables with at least one longitudinal lapped tape-conductor }

H01B 11/183 ... { Co-axial cables with at least one helicoidally wound tape-conductor }

H01B 11/1834 .. { Construction of the insulation between the conductors }

H01B 11/1839 ... { of cellular structure }

H01B 11/1843 ... { of tubular structure }

H01B 11/1847 ... { of helical wrapped structure }

H01B 11/1852 ... { of longitudinal lapped structure }

H01B 11/1856 ... { Discontinuous insulation }

H01B 11/186 .... { having the shape of a disc }

H01B 11/1865 .... { having the shape of a bead }

H01B 11/1869 .. { Construction of the layers on the outer side of the outer conductor }

H01B 11/1873 .. { Measures for the conductors, in order to fix the spacers }

H01B 11/1878 .. { Special measures in order to improve the flexibility }

H01B 11/1882 .. { Special measures in order to improve the refrigeration }

H01B 11/1886 .. { Special measures in order to improve the centration of the inner conductor }

H01B 11/1891 .. { comprising auxiliary conductors }

H01B 11/1895 .. { Particular features or applications }

H01B 11/20 .. Cables having a multiplicity of co-axial lines

H01B 11/203 ... { forming a flat arrangement }

H01B 11/206 ... { Tri-conductor coaxial cables }

H01B 11/22 . Cables including at least one electrical conductor together with optical fibres

H01B 12/00 **Superconductive or hyperconductive conductors, cables, or transmission lines** (details or devices using superconductivity or hyperconductivity characterised by the material H01L 39/12)

H01B 12/02 . characterised by their form

NOTE

Group H01B 12/12 takes precedence over groups H01B 12/04 to H01B 12/10.

H01B 12/04 . . Single wire
H01B 12/06 . . Films or wires on bases or cores
H01B 12/08 . . Stranded or braided wires
H01B 12/10 . . Multi-filaments embedded in normal conductors
H01B 12/12 . . Hollow conductors

H01B 12/14 . characterised by the disposition of thermal insulation

H01B 12/16 . characterised by cooling

H01B 13/00 **Apparatus or processes specially adapted for manufacturing conductors or cables**

H01B 13/0003 . { for feeding conductors or cables }

H01B 13/0006 . { for reducing the size of conductors or cables }

H01B 13/0009 . { for forming corrugations on conductors or cables }

H01B 13/0013 . { for embedding wires in plastic layers }

H01B 13/0016 . { for heat treatment }
H01B 13/002 . . { for heat extraction }

H01B 13/0023 . { for welding together plastic insulated wires side-by-side }

H01B 13/0026 . { Apparatus for manufacturing conducting or semi-conducting layers, e.g. deposition of metal }

H01B 13/003 . { using irradiation }

H01B 13/0033 . { by electrostatic coating }

H01B 13/0036 . { Details }

H01B 13/004 . for manufacturing rigid-tube cables

H01B 13/008 . for manufacturing extensible conductors or cables

H01B 13/012 . for manufacturing wire harnesses

H01B 13/01209 .. { Details }
H01B 13/01218 .. { the wires being disposed by hand }
H01B 13/01227 ... { using a layout board }
H01B 13/01236 .. { the wires being disposed by machine }
H01B 13/01245 ... { using a layout board }
H01B 13/01254 .. { Flat-harness manufacturing }
H01B 13/01263 .. { Tying, wrapping, binding, lacing, strapping or sheathing harnesses }
H01B 13/01272 ... { Harness tying apparatus }
H01B 13/01281 ... { Harness wrapping apparatus }
H01B 13/0129 ... { Sheathing harnesses with foil material }

H01B 13/016 . for manufacturing co-axial cables (applying discontinuous insulation H01B 13/20)
H01B 13/0162 .. { of the central conductor }
H01B 13/0165 .. { of the layers outside the outer conductor }
H01B 13/0167 .. { After-treatment }

H01B 13/02 . Stranding-up (stranding-up ropes D07B)
H01B 13/0207 .. { Details; Auxiliary devices }
H01B 13/0214 .. { by a twisting pay-off device }
H01B 13/0221 .. { by a twisting take-up device }
H01B 13/0228 .. { by a twisting pay-off and take-up device }
H01B 13/0235 .. { by a twisting device situated between a pay-off device and a take-up device }
H01B 13/0242 ... { being an accumulator }
H01B 13/025 .... { of tubular construction }
H01B 13/0257 ... { being a perforated disc }
H01B 13/0264 ... { being rollers, pulleys, drums or belts (H01B 13/0242 takes precedence) }
H01B 13/0271 .. { Alternate stranding processes }
H01B 13/0278 .. { Stranding machines comprising a transposing mechanism }
H01B 13/0285 .. { Pretreatment }
H01B 13/0292 .. { After-treatment }
H01B 13/04 .. Mutually positioning pairs or quads to reduce cross-talk

H01B 13/06 . Insulating conductors or cables (H01B 13/32 takes precedence)
H01B 13/062 .. { by pulling on an insulating sleeve }
H01B 13/065 .. { Insulating conductors with lacquers or enamels }
H01B 13/067 .. { Insulating coaxial cables (H01B 13/20 takes precedence) }
H01B 13/08 .. by winding
H01B 13/0808 ... { Hand-held devices }
H01B 13/0816 ... { Apparatus having a coaxial rotation of the supply reels about the conductor or cable }
H01B 13/0825 ... { Apparatus having a planetary rotation of the supply reels around the conductor or cable }
H01B 13/0833 .... { the supply reel axis being arranged parallel to the conductor or cable axis }
H01B 13/0841 .... { the supply reel axis being arranged perpendicular to the conductor or cable

axis }

H01B 13/085 . . . { Apparatus having the supply reels in a fixed position, the conductor or cable rotating about its own axis }

H01B 13/0858 . . . { Details of winding apparatus; Auxiliary devices }

H01B 13/0866 . . . . { Brakes or tension regulating means }

H01B 13/0875 . . . . { Detecting breakage or run-out of winding material }

H01B 13/0883 . . . { Pretreatment }

H01B 13/0891 . . . { After-treatment }

H01B 13/10 . . by longitudinal lapping

H01B 13/103 . . . { combined with pressing of plastic material around the conductors }

H01B 13/106 . . . { the conductor having a rectangular cross-section }

H01B 13/12 . . by applying loose fibres

H01B 13/14 . . by extrusion { (extrusion in general B29C 47/00) }

H01B 13/141 . . . { of two or more insulating layers }

H01B 13/142 . . . { of cellular material }

H01B 13/143 . . . { with a special opening of the extrusion head }

H01B 13/144 . . . . { Heads for simultaneous extrusion on two or more conductors }

H01B 13/145 . . . { Pretreatment or after-treatment }

H01B 13/146 . . . { Controlling the extrusion apparatus dependent on the capacitance or the thickness of the insulating material (measuring thickness G01B ; testing during manufacturing G01R 31/022) }

H01B 13/147 . . . { Feeding of the insulating material }

H01B 13/148 . . . { Selection of the insulating material therefor }

H01B 13/16 . . by passing through or dipping in a liquid bath; by spraying

H01B 13/165 . . . { by spraying }

H01B 13/18 . . Applying discontinuous insulation, e.g. discs, beads

H01B 13/185 . . . { by periodically constricting an insulating sleeve }

H01B 13/20 . . . for concentric or coaxial cables

H01B 13/202 . . . . { by molding spacers }

H01B 13/204 . . . . { by punching spacers }

H01B 13/206 . . . . { by forming a helical web }

H01B 13/208 . . . . { by mechanically removing parts of a continuous insulation }

H01B 13/22 . Sheathing; Armouring; Screening; Applying other protective layers (H01B 13/32 takes precedence)

H01B 13/221 . . { filling-up interstices }

H01B 13/222 . . { by electro-plating }

H01B 13/224 . . { by drawing a cable core into an oversized tube by means of a tow line }

H01B 13/225 . . { Screening coaxial cables }

H01B 13/227 . . { Pretreatment }

H01B 13/228 . . { After-treatment }

H01B 13/24 . . by extrusion { (extrusion of cables with plastic material in general B29C 47/02) }

H01B 13/245 . . . { of metal layers }

H01B 13/26 . . by winding, braiding, or longitudinal lapping (winding in general B65H)

H01B 13/2606 . . . { by braiding }
H01B 13/2613 . . . { by longitudinal lapping }
H01B 13/262 . . . . { of an outer metallic screen }
H01B 13/2626 . . . . { of a coaxial cable outer conductor }
H01B 13/2633 . . . . { Bending and welding of a metallic screen }
H01B 13/264 . . . . . { Details of the welding stage }
H01B 13/2646 . . . . { Bending and soldering of a metallic screen }
H01B 13/2653 . . . . . { Details of the soldering stage }
H01B 13/266 . . . . { Bending and adhesively bonding of a metallic screen }
H01B 13/2666 . . . . . { Details of the bonding stage }
H01B 13/2673 . . . . { of a compartment separating metallic screen }
H01B 13/268 . . . . { of a non-metallic sheet }
H01B 13/2686 . . . . { Pretreatment }
H01B 13/2693 . . . . { After-treatment }

H01B 13/28 . Applying continuous inductive loading, e.g. Krarup loading
H01B 13/282 . . { by winding }
H01B 13/285 . . { by extrusion }
H01B 13/287 . . { by passing through a coating bath }

H01B 13/30 . Drying; (in general F26B); Impregnating (H01B 13/32 takes precedence; { impregnating of fibres D06B 3/00, D06B 5/00; H01G 4/00, H01G 4/06; drying and impregnating of wood or the like B27K ; impregnation of stones, basic materials therefor C04B 20/10 to C04B 20/12, C04B 41/45 to C04B 41/52 })

H01B 13/32 . Filling or coating with impervious material (for cable installations H02G 15/00)
H01B 13/321 . . { the material being a powder }
H01B 13/322 . . { the material being a liquid, jelly-like or viscous substance }
H01B 13/323 . . . { using a filling or coating head }
H01B 13/324 . . . . { in combination with a vacuum chamber }
H01B 13/325 . . . . { in combination with vibration generating means }
H01B 13/326 . . . . { Material preparing or feeding devices }
H01B 13/327 . . . { using a filling or coating cone or die }
H01B 13/328 . . . { using a filling or coating bath }
H01B 13/329 . . { the material being a foam }

H01B 13/34 . for marking conductors or cables
H01B 13/341 . . { using marking wheels, discs, rollers, drums, balls or belts }
H01B 13/342 . . { by applying marked tape, thread or wire on the full length of the conductor or cable }
H01B 13/344 . . { by applying sleeves, ferrules, tags, clips, labels or short length strips }
H01B 13/345 . . { by spraying, ejecting or dispensing marking fluid }
H01B 13/347 . . . { Electrostatic deflection of the fluid jets }
H01B 13/348 . . { using radiant energy, e.g. a laser beam }

H01B 15/00 **Apparatus or processes for salvaging material from cables** (for removing insulation

from conductors H02G 1/12)

H01B 15/001 . { by cooling down }

H01B 15/003 . { by heating up }

H01B 15/005 . { by cutting }

H01B 15/006 . . { Making a longitudinal cut }

H01B 15/008 . { by crushing }

H01B 17/00 **Insulators or insulating bodies characterised by their form** (section insulators for electric traction B60M 1/18; insulating rail-joints E01B 11/54)

H01B 17/005 . { Insulators structurally associated with built-in electrical equipment }

H01B 17/02 . Suspension insulators; Strain insulators

H01B 17/04 . . Chains; Multiple chains

H01B 17/06 . . Fastening of insulator to support, to conductor, or to adjoining insulator

H01B 17/08 . . . by cap-and-bolt

H01B 17/10 . . . by intermediate link

H01B 17/12 . . Special features of strain insulators (devices for relieving mechanical tension of electric lines or cables H02G 7/04)

H01B 17/14 . Supporting insulators (pin insulators H01B 17/20; apertured insulators H01B 17/24)

H01B 17/145 . . { Insulators, poles, handles, or the like in electric fences }

H01B 17/16 . . Fastening of insulators to support, to conductor, or to adjoining insulator

H01B 17/18 . . for very heavy conductors, e.g. bus-bars, rails

H01B 17/20 . Pin insulators

H01B 17/22 . . Fastening of conductors to insulator

H01B 17/24 . Insulators apertured for fixing by nail, screw, wire, or bar, e.g. diabolo, bobbin

H01B 17/26 . Lead-in insulators; Lead-through insulators

H01B 17/265 . . { Fastening of insulators to support (H01B 17/301 takes precedence) }

H01B 17/28 . . Capacitor type (capacitors H01G)

H01B 17/30 . . Sealing (packings in general F16J)

H01B 17/301 . . . { Sealing of insulators to support }

H01B 17/303 . . . { Sealing of leads to lead-through insulators }

H01B 17/305 . . . . { by embedding in glass or ceramic material }

H01B 17/306 . . . . { by embedding in material other than glass or ceramics }

H01B 17/308 . . . . { by compressing packing material }

H01B 17/32 . Single insulators consisting of two or more dissimilar insulating bodies

H01B 17/325 . . { comprising a fibre-reinforced insulating core member }

H01B 17/34 . Insulators containing liquid, e.g. oil

H01B 17/36 . Insulators having evacuated or gas-filled spaces

H01B 17/38 . Fittings, e.g. caps; Fastenings therefor

H01B 17/40 . . Cementless fittings

H01B 17/42 . Means for obtaining improved distribution of voltage (capacitor-type lead-through insulators H01B 17/28); Protection against arc discharges

H01B 17/44 . . Structural association of insulators with corona rings (corona rings H01T 19/02)

H01B 17/46 . . Means for providing an external arc-discharge path (spark-gap arresters H01T)

H01B 17/48 . . over chains or other serially-arranged insulators

H01B 17/50 . with surfaces specially treated for preserving insulating properties, e.g. for protection against moisture, dirt, or the like

H01B 17/52 . having cleaning devices (H01B 17/54 takes precedence)

H01B 17/525 . . { Self-cleaning, e.g. by shape or disposition of screens }

H01B 17/54 . having heating or cooling devices

H01B 17/56 . Insulating bodies (insulators H01B 17/02 to H01B 17/54)

H01B 17/58 . . Tubes, sleeves, beads, or bobbins through which the conductor passes (protective tubings for the installation of lines or cables in buildings H02G 3/04)

H01B 17/583 . . . { Grommets; Bushings }

H01B 17/586 . . . . { with strain relief arrangements }

H01B 17/60 . . Composite insulating bodies (cables or conductors H01B 7/00, H01B 9/00; resistors H01C ; capacitors H01G)

H01B 17/62 . . Insulating-layers or insulating films on metal bodies (conductive layers or films on insulating-bodies H01B 5/14)

H01B 17/64 . . with conductive admixtures, inserts, or layers (conductive bodies comprising conductive material dispersed in insulating material H01B 5/16)

H01B 17/66 . . Joining insulating bodies together, e.g. by bonding

H01B 19/00 **Apparatus or processes specially adapted for manufacturing insulators or insulating bodies** { (manufacture of porcelain for electric insulation C04B 33/26) }

H01B 19/02 . Drying (in general F26B); Impregnating

H01B 19/04 . Treating the surfaces, e.g. applying coatings